



**CATÓLICA  
LISBON**  
BUSINESS & ECONOMICS



**GOING VIRAL: THE INFLUENCE OF EMOTIONAL  
CONTENT AND GENDER ON SOCIAL TRANSMISSION**

MARIA JOÃO SANTOS

**Dissertation written under the supervision of  
Prof. Eduardo Bittencourt Andrade**

Dissertation submitted in partial fulfilment of requirements for the MSc in International Management with Major in Marketing, at the Universidade Católica Portuguesa and for the MSc Program in Business Administration, at the Escola Brasileira de Administração Pública, Fundação Getulio Vargas, 28<sup>th</sup> May 2018.

## **ACKNOWLEDGEMENTS**

I would like to start by thanking to many individuals, who have helped build the person I am today as an individual, student and professional, and without whom this thesis would not have been possible.

Firstly, I would like to express my deep gratitude to my advisor, Professor Eduardo Bittencourt Andrade, for supporting me in my ideas and in this project. I would also like to thank Yan Vieites, for his guidance and availability along the way, and for always putting me in the right track. Both truly helped me to learn more and be able to create an enthusiastic project that I could enjoy and feel proud about. Their input in the topics of marketing and consumer behavior was critical to define my ideas more clearly and to achieve better results.

Secondly, a big thank you to my colleagues and friends that have shared this amazing experienced with me during this last year in Brazil, that have become my second family, make me feel at home, and were as well a big part of this project and my inspiration. A special thank you to my friend Madalena Nogueira, who was for sure, my partner and crime and biggest support during all this adventure.

Thirdly, to my friends and family in Lisbon, who have always been there for me, and once again were by my side during the most doubtful and stressful time of my academic career. A special thank you to one of my best friends, Rita Dias, who I had the pleasure to share this project with, step by step, and always encourage me to do better.

Lastly, I want to thank and dedicate this thesis to my beloved parents, for showing faith in me and always have my back, without them I would not be here, neither proceed my dream. Thank you for being my role models, and for your endless love support and encouragement. I hope to have made you proud.

## Table of Contents

<b>ABSTRACT .....</b>	<b>4</b>
<b>INTRODUCTION .....</b>	<b>6</b>
<b>THEORETICAL BACKGROUND.....</b>	<b>8</b>
<b>THE CRAFTING OF CONTAGIOUS CONTENT .....</b>	<b>9</b>
<b>THE ROLE OF EMOTIONS IN SOCIAL TRANSMISSION.....</b>	<b>10</b>
<b>GENDER AND THE SOCIAL TRANSMISSION OF EMOTIONAL CONTENT.....</b>	<b>12</b>
<b>METHODOLOGY .....</b>	<b>14</b>
<b>PARTICIPATIPANTS AND DESIGN .....</b>	<b>14</b>
<b>PROCEDURE .....</b>	<b>14</b>
<b>STIMULI .....</b>	<b>14</b>
<b>RESULTS .....</b>	<b>16</b>
<b>RANDOMIZATION CHECK .....</b>	<b>16</b>
<b>EMOTIONAL VALENCE AND GENDER .....</b>	<b>16</b>
<b>ROBUSTNESS CHECKS .....</b>	<b>17</b>
<b>GENERAL DISCUSSION.....</b>	<b>18</b>
<b>THEORETICAL AND MANAGERIAL IMPLICATIONS .....</b>	<b>20</b>
<b>LIMITATIONS AND FUTURE RESEARCH .....</b>	<b>21</b>
<b>CONCLUSION .....</b>	<b>23</b>
<b>REFERENCES .....</b>	<b>24</b>

## ABSTRACT

**Purpose** – The purpose of this work is to examine the influence that gender and different emotional stimuli exert on people's online sharing intentions. Precisely, we take a closer look at whether (1) people share more positive or negative content; (2) men or women react more strongly to these emotional stimuli; and (3) emotional valence has a heterogeneous effect across genders.

**Design/Methodology** - This dissertation employs an experimental study: 2 (emotional valence: positive vs. negative) x 2 (gender: male vs. female) between-subjects design.

**Findings** – Results show that emotional valence does indeed influence sharing intentions, and more importantly, that negative emotions lead to a higher willingness to share. Further, results demonstrated that women share more content online when compared to men but no heterogeneous effects of emotional valence were observed.

**Research limitations** - The main limitation of this research is that it is based on self-reported answers to hypothetical scenarios, since we intend to measure potential behavior of sharing. Meaning that, although an individual's intention to commit to a certain behavior is the most adequate predictor of one's behavior, it is beyond the scope of this study to measure actual sharing behavior.

**Practical implications** - This research produced valuable insights by providing relevant information on how to create content that will probably be highly shared, on the opposite to the regular content that most agencies and marketer use to promote their products.

**Keywords:** Contagious Content; Emotions; Gender; Social Transmission; Online Sharing; Viral.

**Paper category:** Master's Dissertation.

## SUMÁRIO

**Objetivo** – O objetivo desta tese é examinar a influencia que gênero e diferentes estímulos emocionais exercem sobre as intenções de partilha online das pessoas: (1) se os indivíduos partilham mais conteúdos positivos ou negativos; (2) quem, de entre homens ou mulheres, reage mais fortemente a estímulos emocionais; e (3) se a valência emocional e o gênero têm algum tipo de correlação.

**Metodologia** - Esta dissertação utiliza um estudo experimental: 2 (valência emocional: positiva vs. negativa) x 2 (gênero: masculino vs. feminino) entre sujeitos.

**Resultados** – Os resultados mostram que a valência emocional afeta, de facto, as intenções de partilha de conteúdo online e, mais importante, que as emoções negativas levam a uma maior predisposição para partilhar. Além disso, os resultados demonstram que as mulheres partilham mais conteúdos online quando comparadas com os homens, contudo, não foram observados efeitos heterogêneos de valência emocional.

**Limitações**- A principal limitação desta pesquisa é o fato de ser baseada em respostas próprias a cenários hipotéticos, uma vez que pretendemos medir uma intenção de partilha. Isso significa que, embora a intenção de um indivíduo de se comprometer com um determinado comportamento seja o indicador mais adequado para o comportamento do próprio, isso ultrapassa o âmbito deste estudo.

**Aplicabilidade do trabalho** - Esta pesquisa fornece informações relevantes sobre como criar conteúdo com grande probabilidade de ser partilhado online, ao contrário do conteúdo regular que a maioria das agências e profissionais de marketing utilizam para promover os seus produtos.

**Palavras-chave:** Conteúdo Contagante; Emoções; Gênero; Transmissão Social; Partilha Online; Viral.

**Categoria do artigo:** Dissertação de Mestrado.

## INTRODUCTION

Consider the following scenario: we are back in 2009 and one of your friends sends you a video of an audition from Britain's Got Talent. Upon clicking on the video, an apparently old lady in a frumpy dress enters into scene. As soon as she walks in, the judges, the audience, and even yourself put her ability to sing in doubt based on her appearance. Well, it happens that that woman was Susan Boyle. With an incredible voice, she sang the classic song "I dreamed a dream" and left everyone astonished and embarrassed. Through a mixture of emotions, Susan Boyle's audition teaches us a great lesson that is worth sharing: do not judge the book by its cover. The video went instantly viral and has been seen by more than 250 million people only on YouTube.

Although sharing online has become an integral part of people's routines (Allsop, Bassett, and Hoskins 2007), not every content has the same magnitude as Susan Boyle's viral video. According to Berger (2013), viral content is something that has a high probability of being spread from one person to another, until it reaches a significant number of an entire population. Withal, this type of content is extremely difficult to create and the unsuccessful attempts far outweigh the ones that actually succeed (Watts, Peretti and Frumin, 2007). Viral content has been defined, for some, as a mix of art and science, while others argue that virality is just random (Cashmore, 2009). Following Berger's (2003) conception that "*virality is not born, is made*", the extant body of literature has provided insights into how to craft contagious content, or at least, into the understanding of what drives people to share (Eckler and Bolls, 2011; Li, Chong and Ch'ng, 2015; Hennig-Thurau, Hofacker and Bloching, 2013; Woerndl, Papagiannidis, Bourlakis, and Li, 2008; Wilson, 2000; Berger and Milkman, 2012).

Emotions are one of the main forces that lead content into virality (Berger and Milkman, 2012; Berger, 2013). Indeed, research has shown that emotional content draws people's attention to the message being advertised and increases its attractiveness among the general audience (Hazlett & Hazlett 1999). Prior work on this matter seems to suggest that emotions with high levels of arousal are likely to boost the likelihood of content being highly shared (Berger and Milkman, 2012; Berger, 2013). However, the same assertiveness does not hold for emotional valence. One strand of research advocates that people are more likely to pass along positive news (Berger and

Milkman, 2012), as they are directly correlated with self-presentation and reflect a positive effect on people's own identity (Berger and Milkman, 2012). Conversely, a competing body of research claims that negative content is more likely to be passed on due to the fact that negative emotions attract greater attention and the sharing of this type of content help bringing people closer (Bosson, Johnson, Niederhoffer, and Swann, 2006). These conflicting findings shed light on the importance of different emotional tones to the study of viral content and embody Berger's (2011) appeal for further examination on how different emotions affect the transmission of news and information. In this dissertation, we examine how emotional stimuli drive social transmission and virality of online content.

In addition to the emotional aspect, gender can also have a fundamental influence on online sharing. For some authors, women are thought to both experience and express emotions to a greater extent when compared to men (Grossman & Wood, 1993; Johnson & Shulman, 1988; Shields & Koster, 1989; Diener, Sandvik, & Larsen, 1985; Fujita, Diener, & Sandvik, 1991). Despite such rooted belief, recent research has suggested a more ambiguous relationship between gender and emotions. According to this new perspective, men and women are believed to experience emotions the same way, while in regards to expressivity, women tend to express emotions in a greater degree than men (Deng, Chang, Yang, Huo, and Zhou, 2016). To help solve this conflict, we further explore the role of gender in shaping people's reaction to emotional content.

In this dissertation, we examine how different emotional stimuli and gender may impact online sharing. We contribute to literature and research in three different ways. First, we broaden the understanding of how to use emotional tone in online content by looking into emotional valence. Second, we approach how gender can affect emotional content sharing. Finally, we bring emotional content and gender together to examine their potential interactive effects. Throughout this study, implications for target selection and content creation are discussed to guide practitioners and policy makers interested in implementing viral efforts.

## **THEORETICAL BACKGROUND**

Between the 1990s and 2000s the Internet has been readily accepted and incorporated as a predominant element of everyday life, with 3.5 billion users worldwide in 2017 (Statista, 2018). Consequently, social media platforms have penetrated deeply into the mechanics of people's routines, and have become one of the most important forms for public debate and informal interactions. The fast growth of online platforms has forced people to adapt to a new reality, and left behind the days when the mass distribution of information, news and entertainment was only a privilege of the institutional few (Van Dijck and Poell, 2013).

Social media is a form of virtual interaction whereby users create, share, and exchange user-generated content (Kaplan and Haenlein, 2011). It enables users to connect with other people beyond local or social boundaries, being used by companies as a media-strategy and an outlet for broadcasting to transmit or share information to large audiences (Edosomwan, Prakasan, Kouame, Watson, and Seymour, 2011). Accordingly, they are affecting the operational and institutional power balance of media systems by revolutionizing the way people produce, share and consume information (Van Dijck and Poell, 2013). Social media are particularly suited for sharing brand-related content, as the community element embedded in them makes it convenient to transmit the marketing message to a large group of people (Kaplan and Haenlein, 2011), thus providing it more visibility and adherence. That is the reason why companies have incorporated social media to their marketing strategy, and it has become one of the most important channels for brands to build relationships and engage with their customers. Although creating the right content to the right target is far from being an easy task, when these conditions are fulfilled companies become one step closer to creating a marketing epidemic.



## THE CRAFTING OF CONTAGIOUS CONTENT

Contagious content refers to content that it is highly recognizable, talked about, and shared. This type of content is often associated with viral marketing, a marketing strategy whose headstone is the spread of information through word-of-mouth (WoM) - a type of interpersonal communication where consumers share information about products, promotions, and the likes with their peers (Bayus, 1985). According to Berger (2013), word-of-mouth accounts for 20% to 50% influence on people's purchasing decisions, precisely because it is more persuasive, credible, and directly targeted. The fundamental of viral marketing is, indeed, word-of-mouth, but the term "viral" goes above and beyond WoM. As suggested by Berger (2013), viral is something that has a high probability of being spread from one person to another, until it reaches a significant number of an entire population. Usually, contagious contents supply the audience with something of value for free; withal, the main intention is that the content must be catchy, interesting, or useful enough to encourage people to share it with others.

Contagious content is, however, hard to create. Even though, anecdotal evidence of viral marketing successes exists (Phelps, Lewis, Mobillo, Perry and Raman, 2004), scholarly research agrees that it is extremely difficult to predict or manage viral properties and consistently create viral content (Watts, Peretti and Frumin, 2007). The struggle with the strategy is often associated with the lack of knowledge regarding the motivations, attitudes, and behaviors of people who constitute an essential component on virality (Phelps, Lewis, Mobillo, Perry and Raman, 2004), as well as what drives people to share content with others (Berger and Milkman, 2012). According to Subramani and Rajagopalan (2003), there is a lack of analysis on viral marketing that highlights systematic patterns in the nature of knowledge sharing and persuasion by influencers and responses by recipients in online social networks. This is particularly important because the inappropriate use of this strategy may lead to detrimental outcomes through the creation of unfavorable attitudes toward brands and products (Subramani, and Rajagopalan, 2003).

Along these lines, researchers have begun to study the psychology behind social transmission, examining why people share some types of content rather than others (Berger, 2011; Berger and Heath 2005; Berger and Milkman, 2012; Berger and Schwartz, 2011; Chen and Berger, 2013; De

Angelis, Bonezzi, Peluso, Rucker, and Costabile, 2012; Frenzen and Nakamoto, 1993; Heath, Bell, and Sternberg, 2001; Packard and Wooten, 2013). Although still controversial, some researcher advocate for the existence of specific conditions that drive content to become viral (Berger, 2013). In what follows, we build on this strand of research to develop the theoretical foundations of this dissertation.

## **THE ROLE OF EMOTIONS IN SOCIAL TRANSMISSION**

Social Transmission is essentially the sharing of any sort of information, including both verbal and nonverbal communication, actions, behaviors, knowledge, and beliefs (Psychology Glossary, 2018). Social transmission can affect a myriad of life circumstances ranging from decision-making and well-being, to the spread of ideas, the persistence of stereotypes, and the diffusion of culture (Syväterä and Qadir, 2015). According to (Berger, 2011), social transmission is often driven by emotions. In fact, a large number of the web content that becomes viral is due to strong emotions evoked on people (Berger and Milkman, 2012).

Emotional content is commonly believed to play an important role when it comes to drawing attention and increasing the message attractiveness in advertising (Hazlett & Hazlett, 1999). Meanwhile, information processing and the memorability of contagious content can also be enhanced through emotional advertisements, thereby leading to an increase in the sharing propensity (Phelps et al. 2004). Sharing emotional experiences is, indeed, one of the best ways of connecting with others and people do it for a variety of reasons, such as making sense of their experiences, reducing dissonance, or deepening social connections (Festinger, Riecken, and Schachter, 1956; Peters and Kashima, 2007; Rime et al., 1991). Even though benefits coming from the use of emotional content can take place with all sorts of emotions, research suggests that there are certain types of emotions that have a higher probability of being shared.

Emotions are often defined by two dimensions: valence and arousal or activation. Emotion valence is related with the emotional tone, whether it is positive or negative. Emotions are

considered positive if they induce pleasant feelings on people, or negative if they cause unpleasant feelings or discomfort (Shuman, Sander and Scherer, 2013). The second dimension, arousal, is a state of activation, energy and motivation that emotions evoke on people towards taking action. Emotions that lead people to take action are considered high-arousal, the ones that tend to power people down and stifle actions are considered low-arousal (Berger, 2013). While high-arousal emotion has proved to induce greater social transmission than their low-arousal counterparts (Berger and Milkman, 2012), the effect of message valence is more controversial.

Different predictions have emerged concerning what type of valence is more likely to be shared. Some researchers believe that the fact that online content sharing involves self-presentation or communication of one's identity has an impact on what people share and how they want to be perceived by others, meaning that they are more likely to share content that reflects a positive effect on their own identity (Berger and Milkman, 2012). As so, positive emotions would be shared the most, since they would have the strongest effect on forming positive attitudes and stimulating forwarding (Eckler and Bolles, 2011; Berger and Milkman 2012). However, contrasting findings provide massive evidence that people are more likely to pass along negative news as opposed to positive ones (Godes, 2005; Bosson, Johnson, Niederhoffer, and Swann, 2006); Trussler and Soroka, 2014). This alternative perspective, which is the one we adopt here, shows that negative news are the ones that receive the most attention (Trussler and Soroka, 2014) and that words with a negative connotation (e.g., "never," "bad" or "worst") work much better for circulation and ratings than positive ones (e.g., "always" and "best"; Wood, 2018). Further, some studies have suggested that sharing a negative emotion towards a third party is particularly effective in promoting closeness between people, which is one of the main reasons why social transmission occurs (Bosson, Johnson, Niederhoffer, and Swann, 2006). To be more precise, the study revealed a higher tendency to recall sharing with closest friends for negative emotions rather than for positive emotions, possibly because the sharing of negative emotions establishes in-group and out-group boundaries, boosts self-esteem, and conveys highly diagnostic information about attitude holders. Thus, formally:

*H1: Negative emotions are more likely to be shared than positive emotions.*

## **GENDER AND THE SOCIAL TRANSMISSION OF EMOTIONAL CONTENT**

Gender differences have been a field of study for a long time. It is generally advocated that gender-based differences emerge from a host of biological and cultural factors and are further reinforced through the socialization process (Putrevu, 2001). The socialization process, indeed, represents a significant part of gender differences, being responsible for the enhancement of these gaps due to the formation and maintenance of stereotypes (Putrevu, 2001). Gender, itself, is a topic wrapped into innumerable stereotypes, often coming from cultural and social display rules. In the Western culture, a common stereotype concerning gender is that women are more emotionally responsive and sensitive, and more “in touch” with emotions when compared to men (Gard and Kring, 2007; Deng, Chang, Yang, Huo, and Zhou, 2016; Belk & Snell, 1986).

The existing body of literature on gender differences and emotions is considerably large, however, not all in accordance. As Gard (2007) suggests, in order to understand gender differences regarding emotional responses is necessary to consider both emotional experience and emotional expressivity of genders. Emotional experience refers primarily to an individual's physiological arousal evoked by external stimuli, and emotional expressivity is the external expression of subjective experience (Deng, Chang, Yang, Huo, and Zhou, 2016). Heretofore, no consensus as to whether women are more emotional than men or whether they experience or express emotions differently has been reached (Gard MG, Kring AM, 2007). While some pieces of evidence suggest that women are more emotional than men, both in feeling (experiencing) and displaying (expressing) it (Grossman & Wood, 1993; Johnson & Shulman, 1988; Shields & Koster, 1989; Diener, Sandvik, & Larsen, 1985; Fujita, Diener, & Sandvik, 1991), an extensive body of research suggests that such gender gaps in emotional responses are more likely to occur regarding the expression of emotion rather than the experience of emotion (LaFrancee and Banaji, 1992; Fabes and Martin, 1991; Grossman and Wood, 1993; Johnson and Schulman, 1988). In fact, more recent literature states that men and women experience emotions in the same way, but women express emotions to a greater extent when compared to men (Deng, Chang, Yang, Huo, and Zhou, 2016). Such differences in expression are indeed consistent stereotypes created around gender-role identification within a given culture. Along these lines, in cultures where strong traditional sex roles are prescribed, men and women tend to respond more favorably

to messages that are in tune with the appropriate gender stereotype (Putrevu, 2001). Therefore, we hypothesize that:

*H2: Women share (express) more online emotional content than men.*

Further, research has also provided evidence for a possible interaction between gender and emotional valence on social transmission. Different studies have reported that women respond to negative stimuli more frequently and more strongly when compared with men (Bradley, Codispoti, Sabatinelli, Lang, 2001; Fernández, Pascual, Soler, Elices, Portella and Fernández-Abascal, 2012). Indeed, the psychological literature claims that this difference in the response to negative emotions is used to explain a myriad of important life outcomes, including but not restricted to, the differential prevalence of mood disorders across genders (Bradley, Codispoti, Sabatinelli, Lang, 2001; Fischer, Rodriguez, Van Vianen, and Manstead, 2004; Hillman, Rosengren, and Smith, 2004; Tobin, Graziano, Vanman, and Tassinary, 2000). In sharp contrast, empirical evidence has shown that men present either no significant differences or stronger physiological responses than women when confronted with positive content (Karama, Lecours, Leroux, Bourgouin, Beaudoin and Joubert, 2002). Therefore, we hypothesize that:

*H3: Women share more negative emotional content than men, but no such differences will emerge in regard to positive emotions.*

## **METHODOLOGY**

### **PARTICIPATIPANTS AND DESIGN**

The study employed a 2 (emotional valence: positive vs. negative) x 2 (gender: male vs. female) between-subjects design. A total of 314 individuals (54.14% females,  $M_{\text{age}} = 29.2$ ) took part in this online experiment administered through social media.

### **PROCEDURE**

Through social media, participants were invited to take part on a short study about several marketing campaigns. Upon clicking on the link to complete the questionnaire, participants were given a brief definition about online sharing to make sure they would respond to the questionnaire appropriately. They were then explained that they would be presented with 2 videos. Participants were randomly assigned to one of the two emotional valence conditions: online video ads with negative content or online video ads with positive content. All participants viewed 2 video ads in one emotional valence, portraying the respective types of emotion (negative valence - anger and fear; positive valence - love and amusement). After watching each video, participants were asked the probability of sharing the video, with whom they would share it with, how much did they like it, and if they had seen the video before.

Next participants were asked to complete a more general set of questions regarding social media, and another set about online sharing. These questions served as confirmatory questions in our study, since the different usage and engagement with social media, and their sharing habits online can influence the participants' responses regarding sharing the emotional video ads previously presented. Ultimately, some demographic questions were made in the end of the survey, regarding, gender, age, nationality, and if participants were living in Portugal or not (see Appendix)

### **STIMULI**

To test how the emotion used and the gender of the receiver influenced the sharing intentions, video ads were used as stimulus. Since respondents are Portuguese and being previously exposed to the advertisement might influence sharing intention, we exclusively selected videos that

became viral in other countries (but not in Portugal). Using videos that were viral in other countries assured the credibility of the study, by having certainty that the content presented had the potential to become viral. Moreover, it was critical to assure that the content selected contained strong emotional activation. In this study, 4 types of emotion were studied: fear, anger, love and amusement. These were selected because they all reflect high levels of arousal or activation, which as previously mentioned, boost sharing intentions (Berger and Milkman, 2012). Besides, there are two negative emotions and two positive ones since we intended to investigate whether the valence of the emotion has an impact on sharing over and above emotion type.

In the first scenario participants watched two videos displaying negative emotions. The first video was an advertising campaign for Febelfin, an official Belgian federation of the financial sector, promoting safe Internet banking. In the video a mind reader can be seen telling people scary facts about their entire life that can be found online. In our research, this video intends to study the emotion fear. The second video was a marketing campaign from Sandy Hook Promise, an American nonprofit Organization, to stop gun violence, emphasizing the signs that can lead to violence. The video shows two different scenarios, the main one featuring two students starting a love story, while in the background a student presents tremendous signs of violence that no one notices until he arrives at school with a gun and starts a shooting attack. The video is inherent to an emotion of anger. In the second scenario participants viewed two videos carrying positive content. The first video was an advertisement from a Polish online buying and selling platform. The ad starts with an elderly polish man receiving a packaging with an introductory kit to learn English. The ad continues with cute situations and ways of him learning English. Then, he receives another package with a suitcase. In the end, the ads show the man traveling to the UK and meeting his little granddaughter who supposedly only speaks English. To our research, the ad represents an activation of love. The second video intends to represent the emotion of amusement. The video is an advertisement from Heavy Graphics Marketing, an American marketing agency. The video shows an encyclopedia company that suddenly starts receiving an amazing amount of requests for its books, and instantly the CEO calls all the entities involved in the production of the encyclopedias to start producing more. The ad shows everyone at the firm thrilled with this situation. However, in the end, a baby appears playing with an iPad and constantly clicking on the encyclopedia ad where it says, “buy now”, being this the only reason for the increase in demand and why everyone is going crazy at the company.

## RESULTS

### RANDOMIZATION CHECK

To check whether randomization of the emotional valence actually worked, we ran chi-squared tests on participants' demographic characteristics. No systematic differences could be observed for age ( $\chi^2(4) = 1.60$ ,  $p = .81$ ), gender ( $\chi^2(1) = 1.53$ ,  $p = .22$ ), and nationality ( $\chi^2(1) = .33$ ,  $p = .56$ ), suggesting an adequate randomization of the experimental conditions.

### EMOTIONAL VALENCE AND GENDER

We collapsed the two replicates within each emotional valence condition and ran ANOVA tests to analyze the data. There was a main effect of emotional valence on willingness to share such that negative emotions elicited greater sharing than positive emotions ( $M_{\text{positive}} = 3.28$  vs.  $M_{\text{negative}} = 3.67$ ,  $F(1, 348) = 11.74$ ,  $p < .001$ ). These results suggest that emotions with negative valence increase, indeed, willingness to share, thus supporting hypothesis 1.

In the context of our research, emotional expression is translated into sharing intentions. Thus, to test for hypothesis 2, we examined the influence of gender on willingness to share. There was a main effect of gender such that female participants shared more emotional content than their male counterparts ( $M_{\text{female}} = 3.65$  vs.  $M_{\text{male}} = 3.24$ ,  $F(1, 348) = 12.58$ ,  $p < .001$ ). The results from this analysis also provide support for  $H2$ .

Finally, we ran an ANOVA model to analyze the interaction between emotional content and gender, predicted in hypothesis 3. Contrary to expectations, the interaction between emotional valence and gender failed to reach significance ( $F(1, 347) = 0.06$ ,  $p = .80$ ), meaning that the pattern of reaction across genders is similar irrespective of the valence of the emotional content. Thus,  $H3$  was not supported.



## **ROBUSTNESS CHECKS**

We reran all the previous analysis controlling for previous exposure to the advertisement and frequency of online content sharing and results remained largely unaltered. We also used a subsample with Portuguese participants and findings did not change.

## GENERAL DISCUSSION

Whether it is Susan Boyle performing or the latest Coca-Cola's advertisement campaign, the internet has an enduring love affair with content that becomes viral. As mentioned before, contagious content is not easy to craft or to understand. Nevertheless, research has been shedding light into what is needed for a content to become contagious, and consequently, intensely shared. Berger (2013) suggested that there are two important elements regarding online content sharing: the content itself and the people who receive and forward the content. In order to deepen the knowledge regarding each one of these elements, the present study overviews two drivers of sharing using an experimental approach: emotions and gender. Precisely, we investigated whether (1) people share more positive or negative content; (2) men or women react more strongly to these emotional stimuli; and (3) emotional valence has a heterogeneous effect across genders.

Firstly, results show that emotional valence does, in fact, impact sharing intentions. More precisely, the results of the present study demonstrate that negative emotions lead to a higher increase in arousal, which is ultimately translated into a higher willingness to share. This finding contradicts previous beliefs that marketers should always use positive emotions since they are more effective catalysts on persuasion (Forbes, 2018). Further, as discussed earlier in the paper, high-arousal emotions lead to more sharing, mostly because arousal is a state of activation that leads people towards taking action (Berger and Milkman, 2012). Although valence and arousal are usually treated as independent factors (Russell, 1980; Panksepp, 1982; Ekman, 1992), our results join a recent literature that suggests that the two dimensions are actually interdependent (Nummenmaa, Glerean, Viinikainen, Jaaskelainen, Hari, and Sams, 2012; Bestelmeyer, Kotz and Belin, 2017).

Secondly results showed that, overall, women share more content online when compared to men, which can have numerous biological (Kret and Gelder, 2012) and environmental explanations (Vigil, 2008; Gard and Kring, 2007). The extent of which people share content online can be understood as the expression of emotions. Stereotypes say that strong men do not cry, and should reveal little or no facial expressions, while women are the ones allowed—and even incentivized—to be excessively expressive, wearing their “hearts on their sleeves” (Chaplin,

2014). These stereotypes have been soaked on people's minds and cultures for a very long time, meaning that people's thoughts and behaviors are unconsciously shaped by these stereotypes. These deeply embedded concepts are reflected in people's actions including what and with whom they share online. Thus, these results seem to support the idea that differences in emotional reactivity across genders is highly socially constructed.

Lastly, the relation between online sharing intentions, emotional content and gender was taken into consideration. Building on previous research, we predicted that women would share more negative emotional content but no such differences would emerge in regards to positive emotions. However, results suggested that there was no significant interaction between the two variables. Put differently, negative and positive emotional content did not evoke a different pattern of sharing behavior across genders.

## **THEORETICAL AND MANAGERIAL IMPLICATIONS**

This research bears important theoretical and marketing implications. Theoretically, this study contributed with noteworthy conclusions to previous literature, confirming that emotional content has impact on online sharing and showing that there is a relationship between emotional valences and sharing intentions. Besides, it shows that gender and mainly gender stereotypes also play a part in the sharing process.

From a marketing perspective, this research produced valuable insights by providing relevant information regarding target selection and content creation, which can be translated into knowledge to produce genuinely contagious content. By better understanding the specific emotions that elicit the highest sharing and directing marketing efforts to the adequate audience, organizations might increase their revenue when placing advertisements. Moreover, these pieces of information should help online content creators when pricing access to content (e.g., potentially charging more for content that is more likely to be shared). Overall, the present study brings useful insights on how to create content that will probably be highly shared, on the opposite to the regular content that most agencies and marketer use to promote their products.

## **LIMITATIONS AND FUTURE RESEARCH**

Although this research provided valuable insights on the influence of emotional content and gender on online sharing, it also presents some limitations. First, our results are solely based on self-reported answers to hypothetical scenarios (e.g. Bernadette, 1996; Mathieson et al., 54, 2001). In any self-reported study that intends to measure potential behavior, it is theoretically implied that attitudes lead to intentions and intentions lead to actions (Davis, 1989). Nonetheless, self-reported intentions are vulnerable to the social desirability bias (Samant and Seo, 2016), which occurs when respondents “feel social pressure to respond with answers in research they believe to be socially acceptable” (Carrington et al. 2010). Although an individual’s intention to commit to a certain behavior is the most adequate predictor of one’s behavior (Fishbein and Ajzen, 1975), it is beyond the scope of this study to measure actual sharing behavior.

Additionally, the ads used in the study are all foreign to assure low awareness of the videos, and consequently reduce the bias that could rise from already knowing the content. However, the ads’ selection backfires regarding languages purposes. Some videos had English subtitles, which may have created a comprehension barrier to some participants, since the sample was composed of Portuguese people and their level of comprehension of the English language was not assessed. As so, the choice of these particular ads might influence consumer intentions, as not everyone might have been able to fully understand the content.

Regarding further research, future work might continue examining the impact of emotions on different areas of marketing, such as brand image, brand sentiment, and purchase intention, among others. It would also be interesting to focus on understanding the relation between specific emotions and specific brands. Although valence and arousal are considered the main dimensions of an emotion, when studying different types of emotions one by one, hidden relations can surface, especially when addressing it to a brands’ identity. Put differently, the specific use of certain emotions can damage or raise brand attitudes, depending whether the emotions used are aligned with the brand’s identity.

As mentioned throughout this study, one of the main elements on the sharing behavior are the

people involved in the transmission of the content. Another interesting opportunity for further research would be to focus on this element more particularly, trying to better understand people's role in sharing and their own interactions. For example, how do people decide with whom to share something? One's social ties should affect whether people share content with them, or what do they share. Therefore, another interesting question would be what role does the strength of tie or frequency of interaction play in the sharing behavior? Or even, how does the stage of conversation impact what people share? Ultimately, further research could also evaluate how conversations channels impact what is being share or how people decide what channel to share the content through. Is channel selection simply driven by convenience?

## CONCLUSION

Through the last years, we have seen undeniably catchy content simply going viral. It easily provokes powerful reactions across a range of demographics that make people share. This visceral response is what separates viral breakouts from busts (Berger, 2013). This dissertation further explored the topic of virality and contagious content by answering the proposed research question: How do emotional content and gender impact sharing intentions on viral content? Our findings suggest that there is, in fact, a relationship between emotional valence and sharing intentions. The strength of this relationship demonstrate that negative emotions lead to a higher willingness to share. Regarding gender reactions to emotional stimuli, results indicate that women share (express) more content online when compared to men. Thus, enfacing our idea of stereotypes influencing gender emotional expressivity. Together, these findings help practitioners and policy makers to design successful content through the understanding of how to reach their target and how to connect and engage with them.

## APPENDIXES

### Questionnaire

---

#### Introduction

1. People share videos on social media all the time. In this study, we want to better understand this phenomenon. First, you will be presented with 2 videos and a few questions about each one of them. Then, a series of general questions will also be asked. The entire study will take 10 minutes, and please remember that all answers are completely anonymous and used strictly for academic purposes.

Thank you very much for your contribution!

---

#### Introduction II

2. Online sharing is everything you share online for example on social media like Facebook, WhatsApp, Youtube, Instagram, and so on. The content you share can be pictures, status updates, videos, music, among others, and you can share it with only one person or with your entire group of friends on Facebook.

---

#### Video 1 (Fear or Love)

3.A. Would you share this video?

	Definitely not (1)	Probably not (2)	Indifferent (3)	Probably yes (4)	Definitely yes (5)
Answer: (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



4.A. With whom would you share it with?

- ☐ No one (1)
- ☐ Between 1 to 5 people (2)
- ☐ To the ones I know will probably like it or find it interesting (3)
- ☐ On my Facebook or any other social media platform with high visibility, so everyone can see it (4)

5.A. How much did you like this advertise?

	Dislike a great deal (1)	Dislike (2)	Neither like nor dislike (3)	Like (4)	Like a great deal (5)
Answer (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6.A. Have you seen this video before?

- ☐ Yes (1)
- ☐ No (2)

---

**Video 1 (Anger or Humor)**

3.B. Would you share this video?

	Definitely Not (1)	Probably Not (2)	Indifferent (3)	Probably Yes (4)	Definitely Yes (5)
Answer: (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.B. With whom would you share it with?

- ☐ No one (1)
- ☐ Between 1 to 5 people (2)
- ☐ To the ones I know will probably like it or find it interesting (3)
- ☐ On my Facebook or any other social media platform with high visibility, so everyone can see it (4)

5.B. How much did you like this advertise?

	Dislike a great deal (1)	Dislike (2)	Neither like nor dislike (3)	Like (4)	Like a great deal (5)
Answer: (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6.B. Have you seen this video before?

- ☐ Yes (1)
- ☐ No (2)

---

### Social Media Questions

Thank you. Now please answer a few general questions.

7. How many social media platforms do you actively use?

☐ 0 (1)

☐ 1-2 (2)

☐ 3-4 (3)

☐ 5-10 (4)

☐ >10 (5)

8. On average, how much time do you spend daily on a social media platform?

- ☐ Less than 1 hour (1)
- ☐ 1-6 hours (2)
- ☐ 6-12 hours (3)
- ☐ 13-24 hours (4)
- ☐ None at all (5)

9. Why do you use an online social network for? (You may choose more than one)

- ☐ To find information (1)
- ☐ To play games (2)
- ☐ To make professional and business contacts (3)
- ☐ To keep in touch with family and friends (4)
- ☐ To make new friends (5)
- ☐ To get opinions (6)
- ☐ To share videos/pictures/music (7)
- ☐ To share your experience (8)

10. How often do you share content online?

- ☐ Every day (1)
- ☐ Every two days (2)
- ☐ Every week (3)
- ☐ Every month (4)
- ☐ Never (5)

11. Rate how much you use each of the following social media platforms?

	Never (1)	Rarely (2)	Occasionally (3)	Frequently (4)	Always (5)
Facebook (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Twitter (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WhatsApp (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facebook Messenger (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LinkedIn (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instagram (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skype/FaceTime (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Rank the type of content you share the most? (Drag the options bellow, 1 being the content you share the most and 5 the content you share the least)

- \_\_\_\_\_ Videos (1)
- \_\_\_\_\_ Pictures (2)
- \_\_\_\_\_ Status updates (3)
- \_\_\_\_\_ Music (4)
- \_\_\_\_\_ News (5)

13. Why do you usually share content? (You may choose more than one)

- ☐ I share to make me look good (1)
- ☐ It came to the top of my mind (2)
- ☐ It has an emotional impact on me (3)
- ☐ Everyone is sharing it (4)
- ☐ It may have practical value for others (5)
- ☐ It tells a story (6)

---

#### General Questions

14. Gender

- ☐ Male (1)
- ☐ Female (2)

15. Age

- ☐ <20 (1)
- ☐ 20-25 (2)
- ☐ 26-30 (3)
- ☐ 31-40 (4)
- ☐ >40 (5)

16. Are you Portuguese?

- ☐ Yes (1)
- ☐ No (2)

17. Do you live in Portugal?

- ☐ Yes (1)
- ☐ No (2)

---

Thank You!

## REFERENCES

- Alleydog.com. (2018). *Social Transmission definition | Psychology Glossary | alleydog.com*. [online] Available at: <https://www.alleydog.com/glossary/definition.php?term=Social+Transmission> [Accessed 20 May 2018].
- Allsop, D., Bassett, B. and Hoskins, J. (2007). Word-of-Mouth Research: Principles and Applications. *Journal of Advertising Research*, 47(4), pp.398-411.
- Angelis, M., Bonezzi, A., Peluso, A., Rucker, D. and Costabile, M. (2012). On Braggarts and Gossips: A Self-Enhancement Account of Word-of-Mouth Generation and Transmission. *Journal of Marketing Research*, 49(4), pp.551-563.
- Bayus, B.L. (1985). Word-of-mouth: the indirect effects of marketing efforts. *Journal of Advertising Research*, Vol. 25, pp. 31-39.
- Belk, S. S., and Snell, W. E. (1986). Beliefs about women: Components and correlates. *Personality and Social Psychology Bulletin*, 12, 403–413.
- Berger, J. (2011). Arousal Increases Social Transmission of Information. *Psychological Science*, 22(7), pp.891-893.
- Berger, J. (2013). *Contagious*. London: Simon & Schuster.
- Berger, J. and Heath, C. (2005). Idea Habitats: How the Prevalence of Environmental Cues Influences the Success of Ideas. *Cognitive Science*, 29(2), pp.195-221.
- Berger, J. and Milkman, K. (2012). What Makes Online Content Viral?. *Journal of Marketing Research*, 49(2), pp.192-205.
- Berger, J. and Schwartz, E. (2011). What Drives Immediate and Ongoing Word of Mouth?. *Journal of Marketing Research*, 48(5), pp.869-880.



- Bernadette, S. (1996). Empirical Evaluation of the Revised Technology Acceptance Model. *Management Science*, Vol. 42, No. 1, pp. 85-93
- Bestelmeyer, P., Kotz, S. and Belin, P. (2017). Effects of emotional valence and arousal on the voice perception network. *Social Cognitive and Affective Neuroscience*, 12(8), pp.1351-1358.
- Bosson, J., Johnson, A., Niederhoffer, K. and Swann, W. (2006). Interpersonal chemistry through negativity: Bonding by sharing negative attitudes about others. *Personal Relationships*, 13(2), pp.135-150.
- Bradley, M.M., Codispoti, M., Sabatinelli, D., Lang, P. J. (2001). Emotion and motivation II: sex differences in picture processing. *Emotion*. 1(3): 300–19.
- Carrington, Michal, J., Benjamin, A. N., and Whitwell, G. J. (2010). Why Ethical Consumers Don't Walk Their Talk: Towards a Framework for Understanding the Gap Between the Ethical Purchase Intentions and Actual Buying Behaviour of Ethically Minded Consumers. *Journal of Business Ethics*, 97, 139–58.
- Chaplin, T. (2014). Gender and Emotion Expression: A Developmental Contextual Perspective. *Emotion Review*, 7(1), pp.14-21.
- Chen, Z. and Berger, J. (2013). When, Why, and How Controversy Causes Conversation. *Journal of Consumer Research*, 40(3), pp.580-593.
- Codispoti M., Surcinelli P., Baldaro B. (2008). Watching emotional movies: Affective reactions and gender differences. *International Journal of Psychophysiology*, 69(2): 90–5.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, Vol. 13 No. 3, pp. 319-39.
- Deng, Y., Chang, L., Yang, M., Huo, M. and Zhou, R. (2016). Gender Differences in Emotional Response: Inconsistency between Experience and Expressivity. *PLOS ONE*, 11(6), p.e0158666.
- Diener, E., Sandvik, E. and Larsen, R. J. (1985). Age and sex effects for emotional intensity. *Developmental Psychology*, 21, 542-546.

Eckler, P. and Bolls, P. (2011). Spreading the Virus. *Journal of Interactive Advertising*, 11(2), pp.1-11.

Edition.cnn.com. (2018). *Privacy is dead, and social media hold smoking gun - CNN.com*. [online] Available at: <http://edition.cnn.com/2009/OPINION/10/28/cashmore.online.privacy/> [Accessed 20 May 2018].

Edosomwan, S., Prakasan, S. K., Kouame, D., Watson, J. and Seymour, T. (2011). The history of social media and its impact on business. *The Journal of Applied Management & Entrepreneurship*.

Ekman, P. (1992). An argument for basic emotions. *Cognition and Emotion*, 6, 169–200.

Fabes, R. A. and Martin, C. L. (1991). Gender and age stereo- types of emotionality. *Personality and Social Psychology Bulletin*, 17, 532-540.

Fernández, C., Pascual, J. C., Soler, J., Elices, M., Portella, M.J., Fernández-Abascal, E. (2012) Physiological responses induced by emotion-eliciting films. *Applied Psychophysiology and Biofeedback*. 37(2): 73–9.

Festinger, L., Riecken, H. W. and Schachter, S. (1956). *When Prophecy Fails*. New York: Harper and Row.

Fischer, A. H., Rodriguez, P. M., Van Vianen, A. E. and Manstead, A. S. (2004). Gender and culture differences in emotion. *Emotion*. 4(1): 87–94.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA, Addison-Wesley.

Forbes.com. (2018). *Forbes Welcome*. [online] Available at: <https://www.forbes.com/sites/derekruicker/2017/10/05/emotion-in-advertising-the-difference-between-a-spark-and-a-backfire/#5673472831e5> [Accessed 20 May 2018].

Frenzen, J. and Nakamoto, K. (1993). Structure, Cooperation, and the Flow of Market Information. *Journal of Consumer Research*, Volume 20, Issue 3, 1 December 1993, Pages 360–375.

- Fujita, F., Diener, B. and Sandvik, E. (1991). Gender differences in negative affect and well-being. The case for emotional intensity. *Journal of Personality and Social Psychology*, 61, 427-434.
- Gard MG., Kring AM. (2007). Sex differences in the time course of emotion. *Emotion*. 7(2): 429–37.
- Godes, D., Mayzlin, D., Chen, Y., Das, S., Dellarocas, C., Pfeiffer, B., Libai, B., Sen, S., Shi, M. and Verlegh, P. (2005). The firm's Management of Social Interactions.
- Grossman, M. and Wood, W. (1993). Sex differences in intensity of emotional expression: A social role interpretation. *Journal of Personality and Social Psychology*, 65, 1010-1022.
- Hazlett, R. L. and Hazlett, S. Y. (1999). Emotional response to television commercials: Facial EMG vs. self-report.
- Heath, C., Bell, C. and Sternberg, E. (2001). Emotional selection in memes: The case of urban legends. *Journal of Personality and Social Psychology*, 81(6), pp.1028-1041.
- Hennig-Thurau, T., Hofacker, C. and Bloching, B. (2013). Marketing the Pinball Way: Understanding How Social Media Change the Generation of Value for Consumers and Companies. *Journal of Interactive Marketing*, 27(4), pp.237-241.
- Hillman, C.H., Rosengren, K. S. and Smith, D. P. (2004). Emotion and motivated behavior: postural adjustments to affective picture viewing. *Biological Psychology*, 66(1): 51–62.
- Johnson, J. T. and Shulman, G. A. (1988). More alike than meets the eye. Perceived gender differences in subjective experience and its display *Sex Roles*, 19, 67-79.
- Kaplan AM., and Haenlein M. (2016). Two hearts in three- quarter time: How to waltz the social media/viral marketing dance. *Business Horizons*, 54(3):253– 263.
- Karama, S., Lecours, A. R., Leroux, J.M., Bourgouin, P., Beaudoin, G., Joubert, S. and et al. (2002). Areas of brain activation in men and women during viewing of erotic film excerpts.

Kret ME., De Gelder B. (2012). A review on sex differences in processing emotional signals. *Neuropsychologia*, 50(7): 1211–21.

LaFrance, M., and Banaji, M. (1992). Toward a Reconsideration of the Gender-Emotion Relationship. *Review of Personality and Social Psychology: Emotions and Social Behavior*.

Leskovec, J., Adamic, L. A. and Huberman, B. A. (2007). The Dynamics of Viral Marketing.

Li, B., Chong, A. YL. and Ch'ng, E. (2015). What Triggers Sharing in Viral Marketing? The Role of Emotion and Social Feature. *Association of Information Systems*.

Lindström, M. (2009). Buy·ology. [Concordville, Pa.]: Soundview Executive Book Summaries.

Mathieson, K., Peacock, E., & Chin, W.W. (2001). Extending the Technology Acceptance Model: The Influence of Perceived User Resources. *The Database for Advances in Information Systems*, Vol. 32, No. 3, pp. 86-112.

*Number of worldwide social network users 2010-2021 | Statistic.* (2018).[online] Statista. Available at: <https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/> [Accessed 20 May 2018].

Nummenmaa, L., Glerean, E., Viinikainen, M., Jaaskelainen, I., Hari, R. and Sams, M. (2012). Emotions promote social interaction by synchronizing brain activity across individuals. *Proceedings of the National Academy of Sciences*, 109(24), pp.9599-9604.

Packard, G. and Wooten, D. (2013). Compensatory knowledge signaling in consumer word-of-mouth. *Journal of Consumer Psychology*, 23(4), pp.434-450.

Panksepp, J. (1982). Toward a general psychobiological theory of emotions. *Behavioral and Brain Sciences*, 5, 407–22.

Peters, K., and Kashima, Y. (2007). From Social Talk to Social Action: Shaping the Social Triad with

Emotion Sharing. *Journal of Personality and Social Psychology*, 93 (5), 780-97.

Phelps, J. E., Lewis, R., Mobillo, L., Perry D. and Raman N. (2004). Viral Marketing or Electronic Word-of-Mouth Advertising: Examining Consumer Responses and Motivations to Pass Along Email. *Journal of Advertising Research*.

Putrevu, S., (2001). Exploring the Origins and Information Processing Differences Between Men and Women: Implications for Advertisers.

Rime, B., Mesquita, B., Philippot, P., and Boca, S. (1991). Beyond the Emotional Event: Six Studies on the Social Sharing of Emotion. *Cognition and Emotion*, 435-65.

Russell, J.A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, 39, 1161-78.

Samant, S. S. and Seo, H. S: (2016), Effects of Label Understanding Level on Consumers' Visual Attention toward Sustainability and Process-Related Label Claims Found on Chicken Meat Products. *Food Quality and Preference*, 50, 48-56.

Shields, S. A. and Koster, B. A. (1989). Emotional stereotyping of parents in child rearing manuals, 1915-1980. *Social Psychology Quarterly*, 52,44-55.

Shuman, V., Sander, D. and Scherer, K. (2013). Levels of Valence. *Frontiers in Psychology*, 4.

Subramani, M. and Rajagopalan, B. (2003). Knowledge-sharing and influence in online social networks via viral marketing. *Communications of the ACM*, 46(12), p.300.

Syväterä, J. and Qadir, A. (2015). The construction and spread of global models: worldwide synchronisation and the rise of national bioethics committees. *European Journal of Cultural and Political Sociology*, 2(3-4), pp.267-290.

Tobin, R. M., Graziano, W. G., Vanman, E. J. and Tassinari, L. G. (2000). Personality, emotional experience, and efforts to control emotions. *Journal of Personality and Social Psychology*, 79(4): 656-69.

Trussler, M. and Soroka, S. (2014). Consumer Demand for Cynical and Negative News Frames. *The International Journal of Press/Politics*, 19(3), pp.360-379.

Van Dijck, J. and Poell, T. (2013). Understanding Social Media Logic. *Media and Communication*, 1(1), p.2.

Vigil JM. (2008). Sex differences in affect behaviors, desired social responses, and accuracy at understanding the social desires of other people. *SAGE Journals: Evolution Psychology*, 6(3): 506–22.

Watts, D. J., Peretti J. and Frumin, M. (2007). Viral Marketing for the Real World.

Wilson, R. F. (2000). The six Principles of Viral Marketing.

Woerndl, M., Papagiannidis, S., Bourlakis, M. and Li, Feng. (2008). Internet-induced marketing techniques: critical factors in viral marketing campaigns. *Int. Journal of Business Science and Applied Management*.

Wood, S. (2018). *Bad News: Negative Headlines Get Much More Attention*. [online] Adweek.com. Available at: <http://www.adweek.com/digital/bad-news-negative-headlines-get-much-more-attention/> [Accessed 20 May 2018].